

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for high-resolution (high-res) location of an object in an image using a single-chip color image sensor that is sensitive to N bands of electromagnetic energy, the sensor having a sensor geometry, comprising:

providing a high-res color model of an object;

acquiring a color image of an object with the color image sensor;

finding an alignment location of the high-res color model in the color image so as to provide a single low-res location having a phase, including providing N low-res single-band locations, one low-res single-band location for each of the N bands, and combining the N low-res single-band locations into a single low-res location;

using the phase of the single low-res location, and using the sensor geometry, so as to provide a true-phase high-res color model having correct phase; and

finding a high-res location of the true-phase high-res color model in the acquired color image.

Claim 2 (canceled)

Claim 3 (previously presented): The method of claim 1, wherein combining the N low-res single-band locations includes:

combining the N low-res single-band locations into a single low-res location using a weighted sum, each location being associated with a weighting factor.

Claim 4 (original): The method of claim 3, wherein the weighting factor includes a confidence factor.

Claim 5 (original): The method of claim 1, wherein the sensor geometry is based on the Bayer pattern.

Claim 6 (original): The method of claim 1, wherein providing a high-res color model of an object includes:

creating a high-res synthetic model of the object.

Claim 7 (original): The method of claim 1, wherein providing a high-res color model of an object includes:

acquiring a high-res image of the object using a high-res camera.

Claim 8 (original): The method of claim 1, wherein providing a high-res color model of an object includes:

acquiring a low-res image at each phase inherent in the sensor geometry.

Claim 9 (original): The method of claim 1, where N is 3, and the bands represent red, green, and blue.

Claim 10 (original): The method of claim 1, wherein using the phase of the single low-res location, and using the sensor geometry, so as to provide a true-phase high-res color model having correct phase includes:

selecting one of N candidate high-res color models by using the phase of the single low-res location.

Claim 11 (original): The method of claim 1, wherein using the phase of the single low-res location, and using the sensor geometry, so as to provide a true-phase high-res color model having correct phase includes:

synthesizing a synthetic model.